

# Technical data sheet

## Throughbeam photoelectric sensor receiver

Part no.: 50145235

LE5B/4X-M8

### Contents

- Technical data
- Dimensioned drawings
- Electrical connection
- Diagrams
- Operation and display
- Suitable transmitters
- Part number code
- Notes
- Accessories



For illustration purposes only



# Technical data

## Basic data

Series	5B
Operating principle	Throughbeam principle
Device type	Receiver

## Optical data

Operating range	see transmitter
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## Electrical data

Protective circuit	Polarity reversal protection Short circuit protected
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## Performance data

Supply voltage $U_B$	10 ... 30 V, DC, Incl. residual ripple
Residual ripple	0 ... 15 %, From $U_B$
Open-circuit current	0 ... 20 mA

## Outputs

Number of digital switching outputs	1 Piece(s)
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Switching outputs	
Type	Digital switching output
Voltage type	DC
Switching current, max.	50 mA
Switching voltage	high: $\geq (U_B - 2.5V)$ low: $\leq 2.5 V$

Switching output 1	
Switching element	Transistor, PNP
Switching principle	Light switching (dark switching by reversing polarity of $U_B$ )

## Time behavior

Switching frequency	900 Hz
Response time	0.56 ms
Readiness delay	300 ms

## Connection

Number of connections	1 Piece(s)
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Connection 1	
Function	Signal OUT
	Voltage supply
Type of connection	Connector
Thread size	M8
Type	Male
Material	Plastic
No. of pins	4 -pin

## Mechanical data

Dimension (W x H x L)	11 mm x 32.4 mm x 20 mm
Housing material	Plastic
Plastic housing	PC-ABS
Lens cover material	Plastic
Net weight	18 g
Housing color	Black Red
Type of fastening	Two M3 threaded sleeves Via optional mounting device

### Recommended tightening torque for M3 fastening

0.9 N·m

### Compatibility of materials

ECOLAB

## Operation and display

Type of display	LED
Number of LEDs	2 Piece(s)

## Environmental data

Ambient temperature, operation	-40 ... 60 °C
Ambient temperature, storage	-40 ... 70 °C

## Certifications

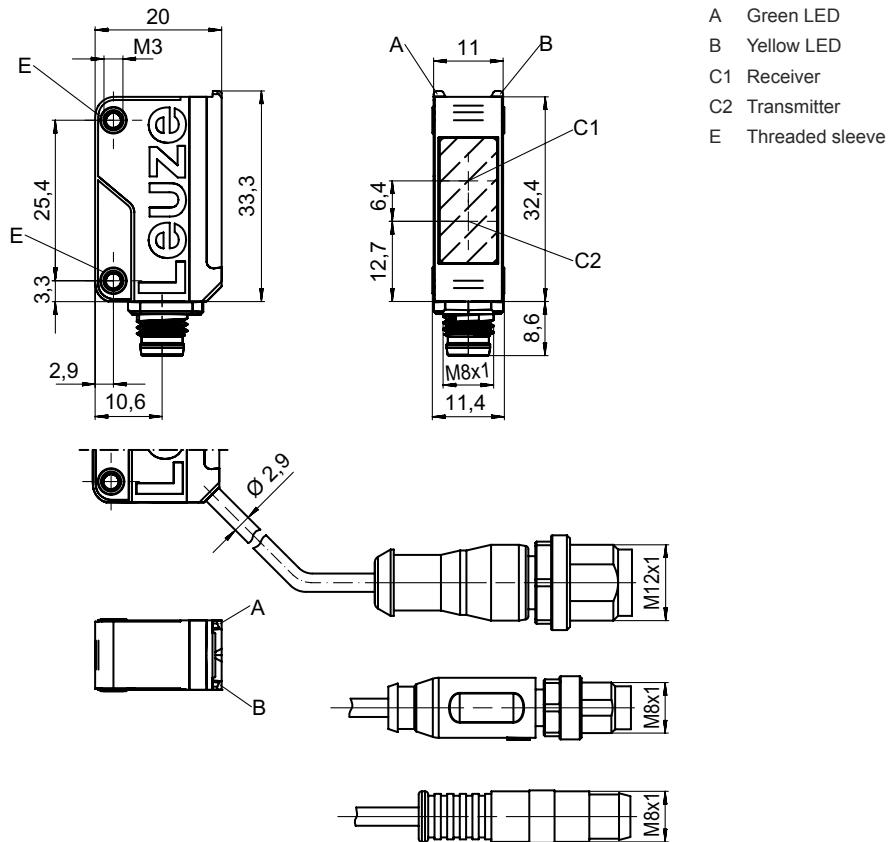
Degree of protection	IP 67
Protection class	III
Approvals	c UL US
Standards applied	IEC 60947-5-2

## Classification

Customs tariff number	85365019
ECLASS 5.1.4	27270901
ECLASS 8.0	27270901
ECLASS 9.0	27270901
ECLASS 10.0	27270901
ECLASS 11.0	27270901
ECLASS 12.0	27270901
ECLASS 13.0	27270901
ECLASS 14.0	27270901
ECLASS 15.0	27270901
ETIM 5.0	EC002716
ETIM 6.0	EC002716
ETIM 7.0	EC002716
ETIM 8.0	EC002716
ETIM 9.0	EC002716
ETIM 10.0	EC002716

## Dimensioned drawings

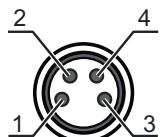
All dimensions in millimeters



## Electrical connection

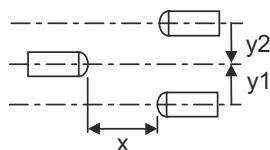
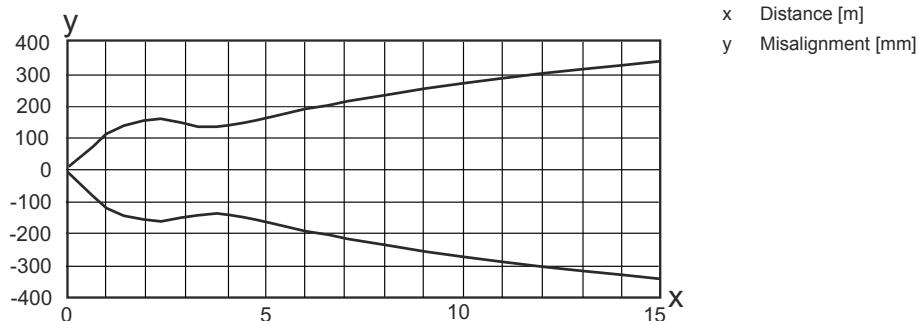
### Connection 1

Function	Signal OUT
Type of connection	Voltage supply
Thread size	Connector
Type	M8
Material	Male
No. of pins	Plastic
4	4 -pin
<b>Pin</b>	<b>Pin assignment</b>
1	V+
2	n.c.
3	GND
4	OUT 1

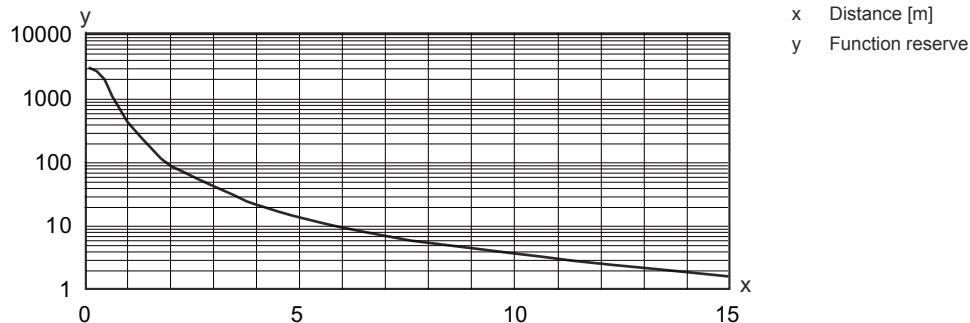


## Diagrams

### Typ. response behavior



### Typ. function reserve



## Operation and display

LED	Display	Meaning
1	Yellow, continuous light	Light path free
	Yellow, flashing	Light path free, no function reserve
2	Green, continuous light	Operational readiness

## Suitable transmitters

Part no.	Designation	Operating range Operating range limit	Description
50145239	LS5B/9X-M8	0 ... 10 m 0 ... 15 m	Special version: Deactivation input Operating range limit: 0 ... 15 m Light source: LED, Red Supply voltage: DC Deactivation inputs: 1 Piece(s) Connection: Connector, M8, Plastic, 4 -pin

## Suitable transmitters

Part no.	Designation	Operating range Operating range limit	Description
	50145241 LS5B/XX-M8	0 ... 10 m 0 ... 15 m	Operating range limit: 0 ... 15 m Light source: LED, Red Supply voltage: DC Connection: Connector, M8, Plastic, 4 -pin
	50152999 LS5BPP/XX-M8	0 ... 12.5 m 0 ... 17.5 m	Operating range limit: 0 ... 17.5 m Light source: Power PinPoint® LED, Red Supply voltage: DC Connection: Connector, M8, Plastic, 4 -pin

## Part number code

Part designation: AAA5B D-E.FF/GG.HH-JJ

<b>AAA5B</b>	<b>Operating principle / construction</b> LS5B: Throughbeam photoelectric sensor transmitter LE5B: Throughbeam photoelectric sensor receiver PRK5B: Retro-reflective photoelectric sensor with polarization filter HT5B: Diffuse reflection sensor with background suppression ET5B: Energetic diffuse reflection sensor
<b>D</b>	<b>Light type</b> n/a: red light I: infrared light PP: Power PinPoint® LED
<b>E</b>	<b>Preset range (optional)</b> n/a: operating range acc. to data sheet xxxF: Preset range [mm]
<b>FF</b>	<b>Equipment</b> 1: 270° potentiometer D: Detection of stretch-wrapped objects M: Detection of semi-transparent media and transparent films XL: Extra long light spot n/a with retro-reflective photoelectric sensors (PRK): operating range not adjustable n/a with ET / HT: range adjustable via 8-turn potentiometer
<b>GG</b>	<b>Switching output / Function</b> 2: NPN transistor output, light switching N: NPN transistor output, dark switching 4: PNP transistor output, light switching P: PNP transistor output, dark switching 9: deactivation input (deactivation with high signal) X: pin not used
<b>HH</b>	<b>Electrical connection</b> n/a: cable, standard length 2000 mm, 3-wire M8: M8 connector, 4-pin (plug) 200-M12: cable, length 200 mm with M12 connector, 4-pin, axial (plug) 200-M8: cable, length 200 mm with M8 connector, 4-pin, axial (plug) 200-M8.3: cable, length 200 mm with M8 connector, 3-pin, axial (plug) 200-M8.1: Cable, length 200 mm with snap-in M8 connector, 4-pin (plug) M8.3: M8 connector, 3-pin (plug)
<b>JJ</b>	<b>Version</b> Y1: mounting holes without threaded sleeve
<b>Note</b>	
	↳ A list with all available device types can be found on the Leuze website at <a href="http://www.leuze.com">www.leuze.com</a> .

## Notes

	<b>Observe intended use!</b>
	<ul style="list-style-type: none"> <li>↳ This product is not a safety sensor and is not intended as personnel protection.</li> <li>↳ The product may only be put into operation by competent persons.</li> <li>↳ Only use the product in accordance with its intended use.</li> </ul>

<b>For UL applications:</b>	
	<ul style="list-style-type: none"> <li>↳ Only for use in "class 2" circuits</li> <li>↳ These proximity switches shall be used with UL Listed Cable assemblies rated 30V, 0.5A min, in the field installation, or equivalent (categories: CYJV7 or PVVA/PVVA7)</li> </ul>

## Accessories

### Connection technology - Connection cables

Part no.	Designation	Article	Description
	50130850	KD U-M8-4A-V1-050	Connection cable Connection 1: Connector, M8, Axial, Female, 4 -pin Connector, LED: No Connection 2: Open end Shielded: No Cable length: 5.000 mm Sheathing material: PVC
	50130871	KD U-M8-4W-V1-050	Connection cable Connection 1: Connector, M8, Angled, Female, 4 -pin Connector, LED: No Connection 2: Open end Shielded: No Cable length: 5.000 mm Sheathing material: PVC

### Mounting technology - Mounting brackets

Part no.	Designation	Article	Description
	50118542	BT 200M.5	Mounting bracket Design of mounting device: Angle, L-shape Fastening, at system: Through-hole mounting Mounting bracket, at device: Screw type, Suited for M3 screws Type of mounting device: Adjustable Material: Stainless steel
	50124651	BT 205M-10SET	Mounting device set Design of mounting device: Angle, L-shape Fastening, at system: Through-hole mounting Mounting bracket, at device: Screw type Type of mounting device: Rigid Material: Metal

## Accessories

### Mounting technology - Rod mounts

Part no.	Designation	Article	Description
	50117829	BTP 200M-D12	Mounting system Design of mounting device: Protection hood Fastening, at system: For 12 mm rod Mounting bracket, at device: Screw type Type of mounting device: Clampable, Adjustable, Turning, 360° Material: Metal
	50117255	BTU 200M-D12	Mounting system Design of mounting device: Mounting system Fastening, at system: For 12 mm rod, Sheet-metal mounting Mounting bracket, at device: Screw type, Suited for M3 screws Type of mounting device: Clampable, Adjustable, Turning, 360° Material: Metal

#### Note



↳ A list with all available accessories can be found on the Leuze website in the Download tab of the article detailed page.